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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/811,123	03/16/2001	Sharon Erickson	GENENT.073A2	6508

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EXAMINER	
HOLLERAN, ANNE L	
ART UNIT	PAPER NUMBER
1642	

DATE MAILED: 03/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/811,123	ERICKSON ET AL.	
	Examiner	Art Unit	
	Anne Holleran	1642	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 November 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2,4-6,8-21,24-48 and 55* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2, 4-6, 8-21, 24-48 and 55* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The finality of the previous Office action is withdrawn and prosecution on the merits continues.

The amendment received November 9, 2004 is acknowledged and has been entered. Claim 55 was added. Claim 1 was canceled. Claims 2, 4-6, 8-21, 24-48 and 55 are pending and examined on the merits.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections Withdrawn:

3. The rejection of claims 1, 4-6, 8-21, 24-48 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement is withdrawn in view of the amendment.

4. The objection under 35 U.S.C. 132 to the amendment to the specification, filed June 18, 2004, because it introduces new matter into the disclosure is withdrawn upon further consideration.

5. The rejection of claims 1, 2, 4-6, 8-12, 14, 20, 24-33 and 38-41 under 35 U.S.C. 103(a) as being unpatentable over Chari (U.S. Patent 5,208,020; issued May 4, 1993; effective filing date

Oct. 25, 1989) in view of Bacus (U.S. Patent 5,514,554; issued May 7, 1996; filing date Oct. 7, 1993) and further in view of Lewis (Lewis, G.D. et al, Cancer Immunol. Immunother. 37: 255-263, 1993; cited in the IDS) is maintained for the reasons of record.

6. The rejection of claims 1, 2, 8-14, and 20, 24-33 under 35 U.S.C. 103(a) as being unpatentable over Chari (U.S. Patent 5,208,020; issued May 4, 1993; effective filing date Oct. 25, 1989) in view of Huston (U.S. Patent 5,877,305; issued Mar. 2, 1999; effective filing date Feb. 6, 1992) and further in view of Lewis (Lewis, G.D. et al, Cancer Immunol. Immunother. 37: 255-263, 1993; cited in the IDS) is maintained for the reasons of record.

7. The rejection of claims 1, 2, 8-12, 24-33 and 38-41 under 35 U.S.C. 103(a) as being unpatentable over Chari (U.S. Patent 5,208,020; issued May 4, 1993; effective filing date Oct. 25, 1989) in view of King (U.S. Patent 5,747,261; issued May. 5, 1998; effective filing date Mar. 5, 1986) and further in view of Lewis (Lewis, G.D. et al, Cancer Immunol. Immunother. 37: 255-263, 1993; cited in the IDS) is maintained for the reasons of record.

8. The rejection of claims 1, 34, 44 and 45 under 35 U.S.C. 103(a) as being unpatentable over Chari (supra) in combination with Hudziak (supra), Baccus (supra), Huston (supra) or King (supra), in view of Lewis (supra) as applied to claim 1 above, and further in view of Senger (U.S. Patent 6,022,541; issued 2/8/2000; effective filing 3/3/1997) is maintained for the reasons of record.

9. The rejection of claims 1, 34-37, 42 and 43 under 35 U.S.C. 103(a) as being unpatentable over Chari (supra) in combination with Hudziak (supra), Baccus (supra), Huston (supra) or King (supra), in view of Lewis (supra) as applied to claim 1 above, and further in view of Sliwkowski (Sliwkowski, M.X. et al., J. Biol.Chem. 269: 14661-14665, 1994; IDS) or Carter (supra) is maintained for the reasons of record.

10. The rejection of claims 1, 4-6, 8-19, 22-25, 27 and 32 under 35 U.S.C. 103(a) as being unpatentable over Iwassa (U.S. Patent 5,217,713; issued Jun. 8, 1993; effective filing date Dec. 27, 1989) in combination with Carter (supra), Hudziak (supra), Baccus (supra), Huston (supra) or King (supra), in view of Lewis (supra) is maintained for the reasons of record.

Claim Rejections Maintained:

11. Claims 14-19 remain rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This is a new matter rejection. Applicants presented no arguments for why this rejection should be withdrawn. The previous rejection is repeated below:

The amendment to claim 14 adds the limitation that the antibody used in the claimed methods is one that shows a growth inhibitory effect on ErbB2 overexpressing cells selected from the group of cells consisting of SK-BR-3, BT474, Calu 3, MDA-MB-453, MDA-MB-361 and SKOV3 cells. Applicant points to page 6 and page 22 for support of this limitation.

However, no support for this limitation is found. At page 6, line 17, there is a discussion of anti-ErbB2 cells that bind to essentially the same epitope as does Mab 4D5. At page 22, there is a discussion of how to screen for antibodies that induce apoptosis. As currently amended, the methods of claims 14-19 require the use of an antibody that has a biological characteristic of a 4D5 monoclonal antibody (ATCC CRL 10463) such that the antibody shows a growth inhibitory effect on ErbB2 overexpressing cells selected from the group of cells consisting of SK-BR-3, BT474, Calu 3, MDA-MB-453, MDA-MB-361 and SKOV3 cells. The specification only appears to teach screening for growth inhibitory antibodies with SK-BR-3 cells, and the specification does not appear to teach the 4D5 monoclonal antibody (ATCC CRL 10463) is growth inhibitory for SK-BR-3, BT474, Calu 3, MDA-MB-453, MDA-MB-361 and SKOV3 cells. Therefore, the amendment to claim 14 appears to introduce new matter into the specification and it does not appear that applicant was in possession of the claimed invention at the time the application was filed.

12. Claims 55, 2, 4, 5, 8-12, 14-17, 20, 21, 24-33, and 38-41 are/remain rejected under 35 U.S.C. 103(a) as being unpatentable over Chari (U.S. Patent 5,208,020; issued May 4, 1993; effective filing date Oct. 25, 1989) in view of Hudziak (U.S. Patent 5,725,856; issued Mar. 10, 1998; effective filing date Jan. 12, 1988) and further in view of Lewis (Lewis, G.D. et al, Cancer Immunol. Immunother. 37: 255-263, 1993; cited in the IDS) for the reasons of record.

13. Claims 55, 2, 4, 5, 8-21, 24-33, 38-41 and 46-48 are/remain rejected under 35 U.S.C. 103(a) as being unpatentable over Chari (U.S. Patent 5,208,020; issued May 4, 1993; effective

filing date Oct. 25, 1989) in view of Carter (U.S. Patent 6,054,297; issued Apr. 25, 2000; effective filing date Aug. 21, 1992) and further in view of Lewis (Lewis, G.D. et al, Cancer Immunol. Immunother. 37: 255-263, 1993; cited in the IDS) for the reasons of record.

New claim Rejections:

14. Claims 55, 34, 44 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chari (supra) in combination with Hudziak (supra), in view of Lewis (supra) as applied to claim 1 above, and further in view of Senger (U.S. Patent 6,022,541; issued 2/8/2000; effective filing 3/3/1997).

15. Claims 55, 34-37, 42 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chari (supra) in combination with Hudziak (supra), in view of Lewis (supra) as applied to claim 1 above, and further in view of Sliwkowski (Sliwkowski, M.X. et al., J. Biol.Chem. 269: 14661-14665, 1994; IDS) or Carter (supra).

16. Claims 55, 4-6, 8-19, 24, 25, 27 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwassa (U.S. Patent 5,217,713; issued Jun. 8, 1993; effective filing date Dec. 27, 1989) in combination with Carter (supra), Hudziak (supra), in view of Lewis (supra).

Response to Arguments

17. Applicants' arguments have been carefully considered, but fail to persuade. Applicants argue that as amended, claim 55, and its dependent claims, recite a treatment method requiring administration to an animal that has a tumor characterized by the overexpression of an ErbB2 receptor and that has been determined to not respond, or to respond poorly, to treatment with an anti-ErbB2 antibody that binds to the 4D5 epitope. The treatment requires that such a tumor be treated with a conjugate, the conjugate being "an anti-ErbB2 antibody which binds to the 4D5 epitope" conjugated together with a maytansinoid. Applicant asserts that because the claimed methods of treatment are directed to a specific population of patients, those that both overexpress ErbB2 receptor and also fail to respond to respond poorly to treatment with an anti-ErbB2 antibody, where the anti-ErbB2 antibody is one that binds to the 4D5 epitope, that the claimed methods are not obvious over the cited prior art, because none of the references cited teach or direct one to treat such a population with a maytansinoid conjugated to an anti-ErbB2 antibody, where the anti-ErbB2 antibody binds to the 4D5 epitope. This is not found persuasive because defining the population as one that fails to respond or responds poorly to treatment with an anti-ErbB2 antibody fails to define a specific subpopulation of patients. This is because, "binding to the 4D5 epitope" includes within its scope the use of an antibodies such as hu-Mab4D5-1 or hu-Mab4D5-2, humanized versions of the 4D5 antibody that are not capable of causing any inhibition in cell proliferation (see Carter, U.S. 6,054,297, Table 3, col. 53-54). Therefore, most individuals would be expected to respond poorly or not at all to treatment with antibodies such as hu-Mab4D5-1 or hu-Mab4D5-2, which are antibodies that bind to the 4D5 epitope.

Applicants' arguments are also unpersuasive because applicant has provided no extrinsic evidence, that a population, even if defined as one that responds poorly or not all to a specific antibody, such as, for example, trastuzumab, would be a population where it would be unexpected that individuals in that population would not respond to a maytansinoid-anti-ErbB2 antibody conjugate. This is because Chari teaches that maytanisinoids are extremely toxic. Therefore, it appears that almost any population would respond to a maytansinoid conjugate, because the treatment effect is derived from the toxic action of the maytansinoid on the tumor.

Double Patenting

18. The rejection of claims 1, 2, 4, 5, 8-12, 14-17, 20-33, and 38-41 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 13-18 of U.S. Patent No. 5,208,020 in view of in view of Hudziak (U.S. Patent 5,725,856; issued Mar. 10, 1998; effective filing date Jan. 12, 1988) and further in view of Lewis (Lewis, G.D. et al, Cancer Immunol. Immunother. 37: 255-263, 1993; cited in the IDS) is maintained for the reasons of record. Applicants have provided no arguments to consider.

The claimed methods are an obvious species of the claims 13-18 of U.S. Patent No. 5,208,020 in view the teachings of Lewis, that some tumors respond poorly to unconjugated anti-ErbB2 antibodies when other tumors respond well to the same antibodies despite overexpression of ErbB2, and in view of the fact that Hudziak clearly contemplated the use of anti-ErbB2 antibody-based immunotoxins in methods of treatment. A maytansinoid conjugated to an anti-ErbB2 antibody falls within the scope of an anti-ErbB2 immunotoxin of Hudziak. One would have been motivated to use the antibodies of Hudziak to make the maytansinoid conjugates to

the claimed methods because Hudziak teaches that ErbB2 (Her-2) is amplified or overexpressed in many human malignancies (col. 2, lines 38-54) and because Lewis teaches that not all ErbB2 overexpressing tumors respond to unconjugated anti-ErbB2 antibodies.

Conclusion

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the Office should be directed to Anne Holleran, Ph.D. whose telephone number is (571) 272-0833. Examiner Holleran can normally be reached Monday through Friday, 9:30 am to 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Siew, can be reached at (571) 272-0787.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist at telephone number (703) 571-1600.

Anne L. Holleran
Patent Examiner
March 16, 2005

JEFFREY SIEW
SUPERVISORY PATENT EXAMINER
3/16/05